

From Snack Bars to Rebar:

How Project Development Boosted Local Businesses Up and Down the Wind Energy 'Supply Chain' in Lamar, Colorado

Craig Cox
March 2004

Conducted on behalf of Bob Lawrence & Associates
for U.S. DOE under Grant Number SF22339

Background: Xcel Energy Rejects Windfarm Proposal

- 1999-2000: Xcel Energy issues RFP for new power generation. Xcel rejects 162MW Enron Wind proposal
 - Xcel opts for all-natural gas portfolio.
- 2001: Advocates take case to Colorado Public Utilities Commission

*Lead plaintiffs: Colorado Renewable Energy Society and Land and Water Fund of the Rockies**



*The Land and Water Fund is now "Western Resource Advocates"

February 2001: PUC Orders Xcel to Negotiate Wind Acquisition

“We find that adding Enron’s Lamar wind energy bid to [Xcel’s] preferred resource plan is in the public interest and comports with the IRP rules, [and will] likely lower the cost of electricity for Colorado’s ratepayers...After a careful analysis of the economics of the wind bid, we find that it is justified on purely economic grounds, without weighing other benefits of wind generation that could be considered under the IRP rules.”

(Colorado PUC, Decision No. C01-295, page 34.)

Important Results from Colorado PUC's 2001 Decision

- New wind generation on Xcel's system is predicted to cost less than new gas-fired generation, assuming that gas costs are more than \$3.50 per million cubic feet (mcf)
- New wind power receives a fair capacity value, based on Xcel's method and data
- Ancillary services to back up new wind power are not a major cost.

From NREL/CP-500-30551, "Colorado Public Utility Commission's Xcel Wind Decision

The PUC was Right: Xcel Energy Says Wind Energy Will Save Consumers \$4.6 Million

- The new wind farm that Xcel Energy is building near Lamar will save consumers \$4.6 million in their power bills.

– *From Xcel Energy testimony by Ronald Darnell to FERC,
16 June 2003*

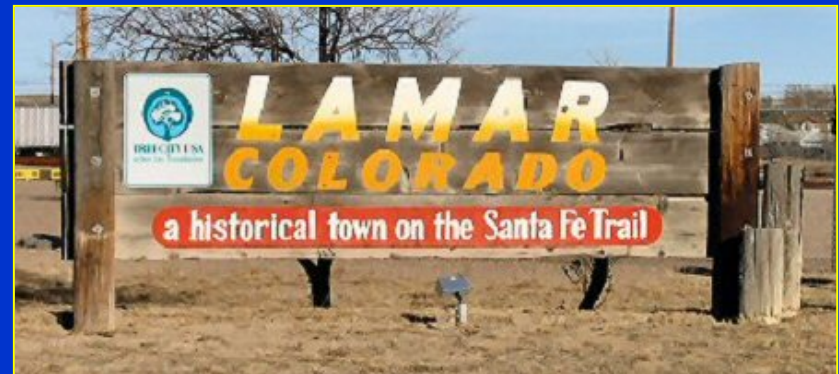
**October 2003: Project Sold by
GE Wind Energy to PPM Energy
and Shell for \$211 Million...**

**Largest-Ever Capital Investment
in Prowers County**



Economy of Lamar and Prowers County Colorado, Before Windfarm

- Primarily agricultural
 - Alfalfa, corn for grain, corn for silage, grain sorghum
 - Farm economy has been depressed
- Population and jobs have fallen since 2000
 - Lengthy drought has harmed local economy
 - Retail sales down
 - Sharp drop in oil and gas production



Construction of Windfarm Starts in mid-2003



Herling Construction

- Built 25 miles of roads
- Excavated the project's 108 foundations



Photo Courtesy John Stulp, Prowers County Commission

Mortenson



- Poured concrete into the bases: 35,000 yards @ 300 yards per turbine
- Had 87 people pouring concrete, with “a couple” of locals staying on
- Gate City Steel did the rebar: 45,000 pounds of rebar in each foundation
 - 12-14 people did rebar
- Bottom line: 1.25 million pounds of concrete and rebar in each foundation

Christensen

- Installed the backbone of the system: 20 miles of underground cable
- Laid the cable to 105 turbines: 590 V converted to 34kV, then stepped up to 230 kV
- Built the substation
- Had 46 employees at height of construction



Photo Courtesy
Mary Root,
Southeastern
[Colorado] Land
and Environment

Wilson Construction

- 44 miles of 230 kV poles and transmission lines strung to new Xcel Energy substation
- 50+ miles of direct buried cable laid from the turbines to the substation
- 25 people employed during construction; IBEW 12



Ridge Crane of Fort Collins



Kevin MacDougal of Fort Collins-based company said that the project helped its business “a lot” and provided three months of work for two cranes. Ridge Crane is now expanding its operations.

All-Rite Paving & Redi-Mix

“Project has been a lifesaver”

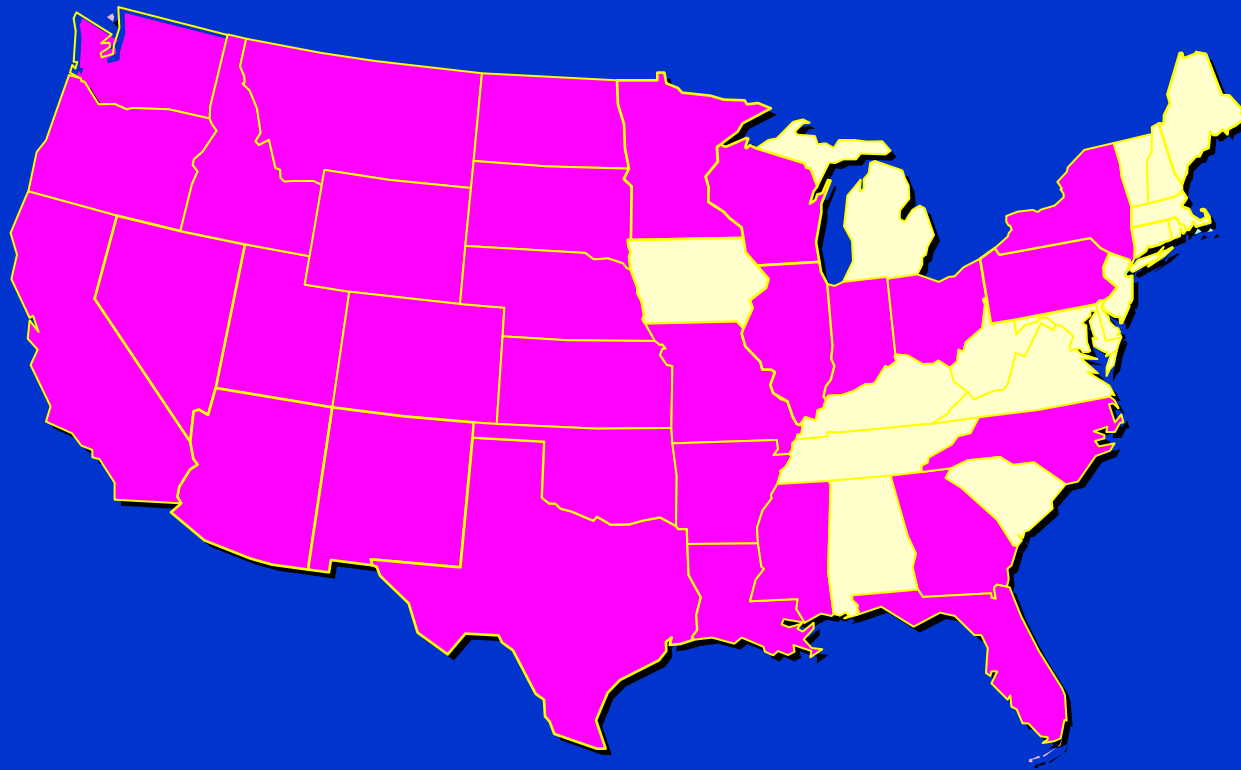


The Lamar (pop. 8,800) All-Rite did more business than the company's Pueblo (pop. 141,472) facility, because of project construction. It laid concrete for 32 miles of poles and for the new substation.

At Height of Construction, Subcontractors at Colorado Green Employed Nearly 400 Workers...



...from Around the Country



...And Their Presence Had a Tremendous Impact on Lamar's Economy



Local Rental Housing Units Booked Solid



“My rental units have been booked solid because of the windfarm construction.”

— Brad Semmens,
owner of Country Acres
Motel and RV Park

High Occupancy at Local Motels



“Occupancy would normally run at about 20 percent in mid-December, but it hovers from 50% to completely full on some nights.”

— *Manager James Emrie*

Quote from article by Steve Raabe in Denver Post, 14 December 2003

Texaco Food Mart



The project was a “shot in the arm...it got so busy in the early morning that I had to bring in more help...I had 60 customers in a half-hour: that's one every 30 seconds!”

– Doug Johnson,
Owner

Hay Stack Restaurant



“We’ve seen a lot of workers coming in...the project has helped increase our business at least 30 percent.”

– *Jamie, Manager of Hay Stack Restaurant*

Daylight Donuts

"We've had an increase in business, and the windfarm guys come in almost every morning."

– Clerk at Daylight Donuts



DeLoach's Water Conditioning



The project was a “shot in the arm...the workers drank lots and lots of water.”

— *Jim DeLoach,*
Owner

Wallace Gas & Oil

- Project has been a “Godsend...it’s helped us to keep our heads above water.”
 - Company has delivered 110-115K gallons to the project, representing about \$250K more than it would otherwise have taken in.



Brett Buxton of Wallace Gas & Oil

Movie Gallery



“We’ve seen business increase by about 20 percent because of the windfarm workers.”

Workforce Colorado [State Job Service Agency]



“Because of the drought, the economy has been really bad, and the windfarm has been a real blessing... we would love to see them come back and do more!”

— *Linda Mulbery, Workforce Colorado*

Interest in Business Relocation Soars



“Because of the windfarm, business relocation inquiries have begun increasing from small manufacturers and oil-field services firms.”

– Jan Anderson, Executive Director, Southeast Colorado Enterprise Development, Inc.

Best Made Mattress Company of Denver

“The new windfarm project has made us take a second look at relocating [our] mattress plant to Lamar.”

– Thomas Jay Wacker,
Business Manager, Best
Made Mattress Company,
Denver [from Lamar Daily
News of 22 January 2004]



Thomas Wacker and Jason
Lucas of Best Made Mattress
Co.

Windfarm Instills “New Spirit of Community in Lamar”



“The windfarm has instilled a new spirit of community in Lamar...it’s intangible but very real.”

— *Chris Rundell,
local rancher*

Tremendous Local Support



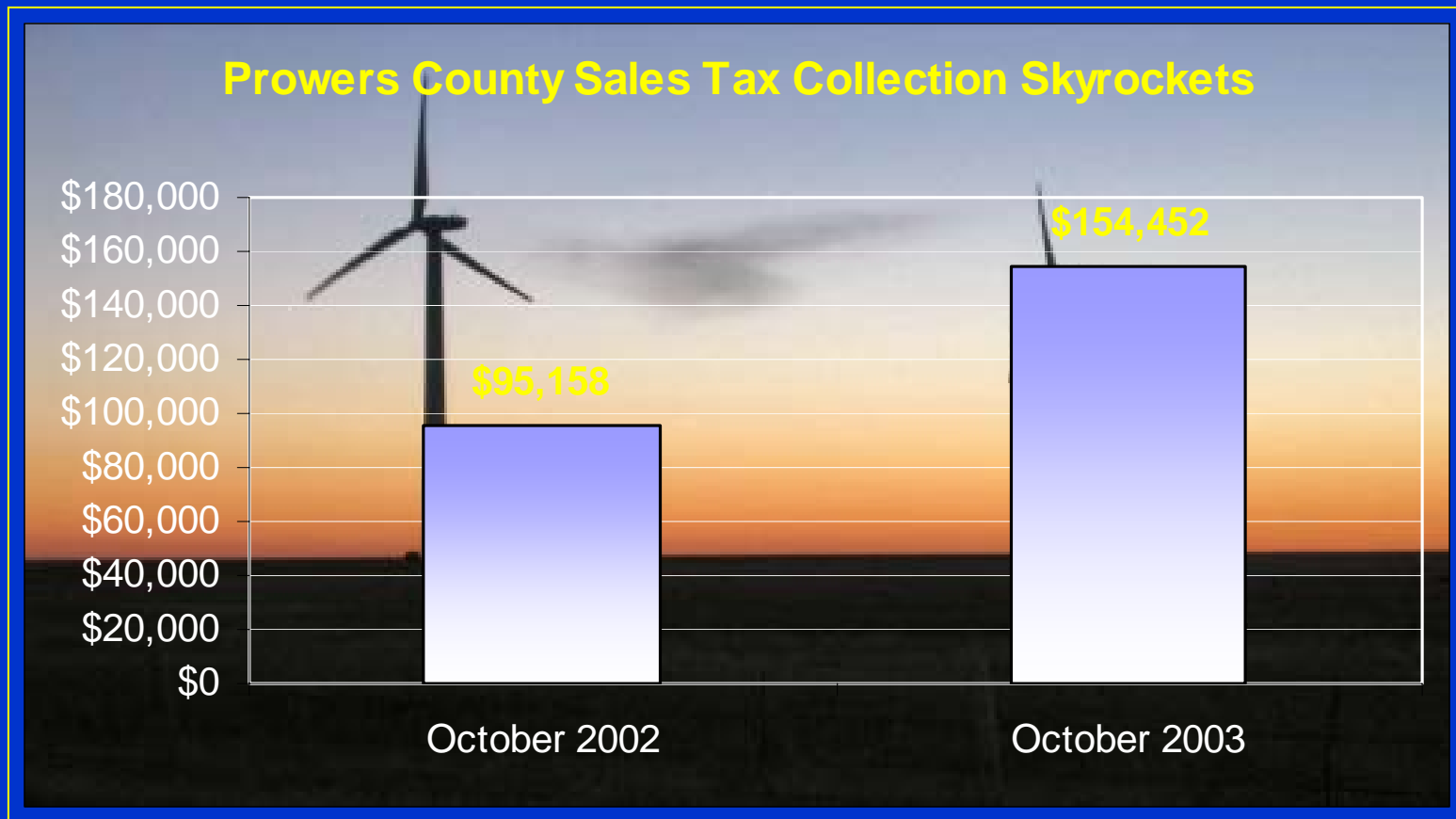
Site Services for a Typical 100MW Windfarm

	<u>Man-hours</u>
Turbine & Tower Installation Svcs.	121,080
Concrete Construction Services	72,000
Equipment Transportation Services	42,650
Project Management Services	36,775
Engineering & Surveying Services	25,300
Vendor Field Services	20,535
Road Building Services	18,940
Underground Cable Installation Svc.	17,250
General Labor Services	15,000
Local Material Delivery Services	12,500
Electrical Installation Services	8,770
Concrete Services	6,800
Equipment Repair & Fueling Svc.	6,000
Inspection & Testing Services	5,000
Food Preparation & Delivery Svcs.	3,500
Housing & Lodging Services	3,000
Real Estate & Legal Services	2,800
Communication System Services	<u>1,120</u>
	419,020



The total site services required for construction of a typical 100MW windfarm is about 419,020 man-hours—equivalent to approximately 53,377 days of work at the site.

Construction Boosted County Sales Tax Revenues



Landowner Payments Boost Entire Region



Property owners Kenneth and Michael Emick. Photo from Pueblo Chieftain

Property owners will receive royalty payments based on the amount of power generated

- Typical payments characterized as between \$3,000 and \$6,000 for each of the project's 108 turbines.

**Colorado Green Has
Brought 15-20 Full-time
Permanent “Well Paying”
Local Jobs**



Prowers County Assessor Andy Wyatt Outlines Some of the Windfarm's Benefits...



Project Has Increased Prowers County's Tax Base by 29%...



...Providing \$917,000 Annually for Re-2 School District General Fund...



Photo from Lamar Daily News by Verna McDowell

**...\$203,000 Annually to the
School District's Bond Fund...**



...\$189,000 Each Year to the
Prowers Medical Center...



And New County Revenues of About \$764,000 Annually



Summary of Wind's Benefit to Prowers County

- \$764,000/year: new county revenues
- \$917,000/year: School General Fund
- \$203,000/year: School Bond Fund
- \$189,000/year: Prowers Medical Center
- 29% Increase in County Tax Base
- Tremendous Support from Community

Windfarm a “Blessing” to the Entire Area



“It’s the greatest thing that has happened to this area, and it’s a blessing to Prowers County and Southeast Colorado.”

— *Leroy Mauch, Prowers County Commissioner*

Support From Neighboring Baca County



Springfield, county seat of Baca County, Colorado

“A windfarm in Baca County would provide real benefits to us, too, tax-wise, employment-wise and energy-wise. I hope to see new wind energy development in our county very soon.”

— *Baca County
Commissioner Ray Miller*

Community Wind: Lamar Light & Power, ARPA and Springfield



These Community Projects (five 1.5MW turbines) were made possible by Colorado Green

Capture the Benefits of Wind in Your Community



Video clip courtesy GE Wind

Thank You!

Craig Cox

coxcrraig@att.net

303-679-9331